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A cross-cultural study of humor appreciation: Italy and Germany*

WILLIBALD RUCH and GIOVANNANTONIO FORABOSCO

Abstract

The present study examines the cross-national stability of a factor analytically derived taxonomy of jokes and cartoons. A sample of 100 female and 48 male Italian adults responded to Italian translations of the 3 WD humor test (Ruch 1983) which is aimed at measuring funniness and aversiveness of incongruity-resolution, nonsense, and sexual humor. The results were compared with that of a German sample of 98 female and 50 male adults. Funniness and degree of controversiality of these humor categories were compared in Italy and Germany, and a comparison of the mean humor appreciation profile was undertaken.

The results showed that the taxonomy derived from German and Austrian samples can be applied to Italian samples as well; the factor structures were very similar both at the level of the factors themselves and at the level of individual jokes and cartoons. Furthermore, comparable rank orders of perceived quality and controversiality of jokes and cartoons of the sexual humor category were obtained for both samples. The Italian sample scored higher in appreciation of sexual humor and lower in funniness of nonsense humor than the German sample.

Introduction

There has been a significant increase in interest in the study of humor over the last two decades. This can be observed from an increasing absolute and relative number of journal publications, the increasing bandwidth of themes studied, and the number of countries involved (Ruch 1993). Nevertheless, it is cautioned that accumulation of knowl-

edge in this field is contingent on the development of a valid taxonomy of humor (Ruch, Accoce, Ott, and Bariaud 1991). Such a taxonomy might serve as a common frame of reference for integrating research findings stemming from different laboratories of not only one, but, at best, of different countries. However, the state of the art is that researchers typically even use different jokes in different studies. Hence, the comparison of research findings is impaired, making the accumulation of knowledge difficult. In order to assure incremental research, therefore, cross-cultural research on humor taxonomy can be considered a foremost goal of humor research.

Approaches to the taxonomy of humor

There are three approaches to the taxonomy of humor stimuli: the *intuitive*, the *rational*, and the *empirical* (Ruch 1991). The *intuitive* approach has produced quite a high number of humor categories. Whenever a researcher considered an ingredient of jokes to be important (for example, aggression toward the self or others, denial, nonsense, black, seduction), jokes sharing this presumed element were treated as forming a unique humor category. The *rational* approach is based on a theory. For example, applying the Freudian (1905) theory yields humor categories of harmless, sexual, and aggressive, while humor categories like anti-male or anti-female stem from the disparagement theory (Zillmann 1983). The *empirical* approach considers how a larger number of subjects respond to humor. The similarity among jokes (either perceived or indirectly estimated) forms the basis for determining the number and nature of the categories of the taxonomy. This approach utilizes statistical tools like cluster analysis, factor analysis, or multidimensional scaling to derive the taxonomy. These three approaches and sample taxonomies were discussed in more detail elsewhere (Ruch 1991; Ruch et al. 1991).

An empirically based two-mode model of humor

Ruch (1992) presented a two-mode model of humor appreciation composed of a response mode and a stimulus mode. In the response mode two almost orthogonal components in humor appreciation are distin-

guished: *funniness* and *aversiveness*. The second mode refers to a taxonomy of jokes and cartoons comprising the dimensions of *incongruity-resolution* humor, *nonsense* humor, and *sexual* humor. The factors from both modes are the result of a set of factor analyses of humor stimuli and response scales using German and Austrian samples differing with regard to sex, age, occupation, health status and other variables (for a review of these studies, see Ruch 1992).

Funniness of humor. Studies of responses to humor show that all positively toned ratings tend to intercorrelate highly positively, independent of whether they refer to the perceived properties of the stimuli (funny, witty, original) or to the recipients' feelings (exhilarated, amused). This positive response factor also covers both the cognitive (clever, original) and affective (funny, amused) evaluations (Ruch and Rath 1993).

Aversiveness of humor. Negative responses to humor, like indignation, embarrassment, or boredom were neglected for a long time. However, a humor response factor of *negative* affect consistently emerged from the intercorrelations among the negatively toned response scales (like embarrassing, plain, childish, aggressive). In studies of humor appreciation this factor is best represented by a rating of "aversiveness."

The factor analyses aimed at establishing a *taxonomy of jokes and cartoons* revealed that both *structure* and *content* of humor have to be considered in the classification of humor. More specifically, two of the dimensions relate to structural properties of the jokes and cartoons and one to their content.

Incongruity-resolution (INC-RES) humor. Jokes and cartoons of this structure-dominated humor category are characterized by punch lines in which the surprising incongruity can be completely resolved. The common element in this type of humor is that the recipient first discovers an incongruity which is then fully resolvable upon consideration of information available elsewhere in the joke or cartoon.

Nonsense (NON) humor. The other consistently emerging structural factor is nonsense humor, which also has a surprising or incongruous punch line, exactly as in incongruity-resolution humor. However, the punch line may 1) provide no resolution at all, 2) provide a partial resolution (leaving an essential part of the incongruity unresolved), or

3) actually create new absurdities or incongruities. In nonsense humor the resolution information gives the appearance of making sense out of incongruities without actually doing so. Nonsense humor should not be confused with the so-called “innocent” humor, because it refers to the typical structure of humor rather than to a harmless content.

Sexual (SEX) humor. The third factor is characterized by the salient content. There is a variety of sexual themes involved and it is only the sex jokes and cartoons which load on this factor. It should be noted, however, that sex jokes and cartoons do not consist of pure content but are also embedded in a joke work. Both the incongruity-resolution and the nonsense structure can provide the basis of sexual humor as they do for non-tendentious content. (Examples for the three categories were given by Ruch et al. 1991.)

This model is assumed to provide an exhaustive taxonomy for the classification of both humor responses and humor stimuli at a general level. A subject's humor appreciation is described by his/her response profile in this 2×3 (response dimensions \times humor stimulus factors) model. The validity of the two-mode model of humor appreciation is supported by the results of personality studies conducted throughout the last decade (for a review see, Ruch 1992). These studies were aimed at verifying the postulated structural and content-related ingredients in the humor stimuli and the separation of the two response components in humor appreciation. For example, while enjoyment of incongruity-resolution humor was most strongly correlated with conservatism, enjoyment of nonsense was predicted by traits such as experience seeking.

A cross-cultural research project on humor taxonomy

The program of the cross-cultural research project on humor taxonomy with the 3 WD humor test (Ruch 1983) has been outlined recently (Ruch 1991). Basically, it involves a bidirectional process of transferring the taxonomy between countries back and forth and evaluating its applicability.

The transfer from Culture A into Culture B includes the following four steps¹: a) generation of a translated version of the 3 WD, b) appraisal of the applicability of the 3 WD taxonomy to Culture B, c) replication and extension of the nomological network, and d) test of the comprehen-

siveness of the taxonomy in Culture B. In case new factors emerged, the whole process should be reversed. The transfer from Culture B to Culture A can be summarized in two steps: e) translation of "markers" of the new categories and the evaluation of their stability and validity and f) eventual expansion of the original taxonomy. These steps form the program of the cross-cultural research project with respect to *taxonomy* of humor. The full program includes two more steps: g) the construction of a psychometrically sound final version of the 3 WD for use in Culture B and h) the investigation of the mean humor profile of this country and its comparison with the profiles of other countries. Such a cross-national comparison of "sense of humor," however, has to be based on carefully selected representative samples.

One might argue that the taxonomy to start with is too heavily biased toward the humor of one country; i.e., that genuine German humor is exported into other countries. However, this is not the case since few of the cartoons used in the 3 WD have a German origin. Cartoons and jokes are distributed around the world with the help of international magazines; hence the potential national bias is low. Much attention is also given to the process of generating the translated version of the 3 WD. This includes a controlled translation of the items into the other language, a backward translation into German by independent persons, and the comparison with the original. The adaptation of the items includes the altering of specifics of a country (for example, names referring to individuals, geography, customs, etc. are adjusted) making the resulting version appear to subjects like a collection of humor originating from that country. It was recommended that, ideally, the translation should be done by a team composed of a language professional, a humor theorist and a humor professional or skilled amateur humorists (Ruch 1991), and the latter should search for ways to optimize funniness. The failure to assure that the translation is equally funny as the original might subsequently invalidate the comparison of humor profiles; a difference between countries might emerge from the differently funny versions rather than reflecting a difference in humor appreciation between the countries.

Studies on cross-cultural stability of this taxonomy so far have involved Austria (Ruch 1991), France (Ruch et al. 1991), Turkey (Ciftci 1990), and the United States (Deckers, McGhee, and Ruch 1993). The present article constitutes a further step in this direction by investigating whether the same humor categories can be derived from the 3 WD humor test in two different nations, Italy and Germany. Specifically, it determines whether the three humor factors found in German studies can be dupli-

cated in Italy. Furthermore, it tests whether the mean funniness and controversiality (i.e., how heterogeneous the responses are) of these humor categories are comparable across the two nations. Finally, potential differences in humor appreciation between the two nations will be explored as well. A parallel article deals with the third step of the program, the replication of the nomological network (Forabosco and Ruch 1994).

Method

Subjects

The Italian sample. One hundred female and 48 male adults of the Ravenna area between the ages of 15 and 72 ($m=34.5$ yrs; $SD=13.7$ yrs) participated in this study. The sample was very heterogeneous regarding profession, education, and social condition.

The German samples. For the comparison of the factor matrices the Varimax loadings used in the previous cross-cultural study (Ruch et al. 1991) were used. This factor pattern was derived from a principal component factor analysis of all 60 jokes and cartoons of Forms A and B which clearly yielded the three factors of incongruity-resolution, nonsense, and sexual humor. This sample (sample I) was comprised of 59 male and 56 female non-psychology students with an age ranging from 18 to 32 years ($m=22.6$ yr; $SD=3.0$ yr).

For the comparison of the profiles of humor appreciation a sample from a prior investigation was selected which was comparable to the Italian with regard to sex, age, and education level. This sample (sample II) consisted of 108 adults. To match the characteristics of the Italian sample 39 females and one male from sample I were added to form the German comparison sample. This sample consists of 98 females and 50 males and was practically equivalent to the Italian sample with respect to sex of subjects. Ages ranged from 18 to 59 ($m=27.48$ years; $SD=8.99$).

Material

The 3 WD humor test — Forms A and B (Ruch 1983). In each form 35 jokes and cartoons are rated on “funniness” and “aversiveness” using

two seven-point scales. The first five items of each form are used for "warming up" and are not scored. Six scores can be derived: three for funniness of incongruity-resolution, nonsense, and sexual humor (i.e., INC-RES_f, NON_f, and SEX_f) and three for their aversiveness (i.e., INC-RES_a, NON_a, and SEX_a).

Translations of Forms A and B were performed from the original German version and from the American version by two professional Italian interpreters working independently of each other on one version only. The two translations were then compared, and no relevant differences were detected. However, the translation seems to have impaired the humor value of the stimulus in six cases, and thus, these jokes and cartoons were substituted by ones considered to be equivalent by the Italian author (for Form A, item 35; for Form B, items 4, 7, 18, 32; i.e., one item each from INC-RES and SEX, and 4 from NON).

Procedure

All subjects were tested individually and answered the package of questionnaires in a fixed order. Subjects were instructed to complete the tests at home, alone, without any hurry. They usually returned them after two or three days. The reported time to complete the task varied from 30 to about 50 minutes.

Results

Factor analysis of the humor test in the Italian sample

The funniness ratings of the 60 jokes and cartoons (not including the 10 warming up items) were intercorrelated and subjected to a principal components analysis. 13 eigenvalues exceeded unity but the root curve suggested the retention of either three or five factors (eigenvalues: 17.8, 3.4, 3.3, 2.4, and 2.0) and hence serial Varimax rotations with 3 to 5 factors were undertaken.

The three-factor-solution provided factors easily identifiable as incongruity-resolution, nonsense, and sexual humor explaining 15.8%, 12.0%, and 12.8% of the variance, respectively. Taking a loading of .40 as a criterion, 23 items loaded on the incongruity-resolution factor (highest

loading: .69), 16 on nonsense (highest loading: .67), and 16 on sexual humor (highest loading: .76). Fifty-two of the 60 items had their highest loading on the expected factor and only 8 (INC-RES: 1, NON: 3, SEX: 4) had a higher loading on a different factor. In most of these cases, a second loading on the other factor was expected (i.e., for sexual jokes based in the nonsense structure) in any case and it also occurred for the German version. The difference was that this second loading exceeded the size of the main loading in the Italian sample.

What is the nature of the other factors? Factors 4 and 5 did not appear to represent further types of humor but differences in mood or attitude toward testing between the administration of the two forms. Independent of the *type* of humor, items of forms A and B loaded with opposite signs on these two factors (hence these factors deal with time of administration rather than reflect further types of humor) which together explained 7.3% percent of the variance. State variance in prior studies typically ranged between 5% and 7% (Ruch 1992).

Further state variance: "Warming up"-factors. In order to examine whether there are also "warming up" factors as in other studies (see Ruch 1992) separate factor analyses were performed for both forms which included *all* 35 jokes and cartoons. In both forms a factor appeared (at position 5) which was loaded mainly by the first five variables. There was a decrease of loadings with increasing order of the jokes and cartoons. They accounted for 4.4 and 4.7% of the variance in Forms A and B, respectively. This confirms the necessity of including warming up items.

Comparison of the factor structure of the German and Italian samples

Two methods were used to estimate the cross-national stability of the three humor factors. First, computation of cosines between corresponding factors (see Kaiser, Hunka, and Bianchini 1971) suggested that the factors of nonsense humor (.96) and sexual humor (.95) have similar structures in both countries whereas the factor structure of incongruity-resolution humor (.93) can be classified as fairly similar in the two countries. Second, Tucker's Congruence Coefficient was computed and proved to be sufficiently high for each of the three humor factors before (.84, .84, and .90) and after (.84, .84, and .94) the rotation of the Italian matrix which established maximum overlap between the factors.

Finally, Congruence Coefficients for individual jokes (cosines between the locations of a joke in the two spaces) were between .23 and 1.00 with an average value of .89. One fifth (12 items) of the jokes and cartoons had indices which indicated essentially identical factor patterns (between .98 and 1.00), 14 of the jokes and cartoons were similar (between .95 to .98) and 15 were fairly similar (between .90 to .95). Another nine items were still acceptable and only 11 (3 INC-RES, 7 NON, 1 SEX) of the 60 jokes and cartoons were below .80, with most of them falling just below .80. Thus, the high stability of the factor pattern can be found on the level of individual items, too. This is especially noteworthy for the sexual humor category, since it confirms that the structural basis of the sexual jokes and cartoons can be replicated as well. Five of the substituted items had coefficients exceeding .80, only one nonsense cartoon yielded a low stability coefficient (.51).

The high stability of the factor structure in the two countries is also reflected by the total variance explained in the Italian (40.9%) and German (39.0%) sample. The proportion of variance explained by the rotated factors is nearly identical for the German matrix (INC-RES: 15.6%; NON: 11.1%; and SEX: 13.5%) and the Italian matrix before (12.8%, 12.0%, 15.8%) and after the rotation (15.8%, 10.9%, and 13.9%).

Test statistics of the Italian experimental version of the 3 WD

Descriptive statistics (means, standard deviation) as well as reliability estimates (Cronbach's alpha, correlation between forms) were computed for all scales of Forms A and B separately and combined. The results are given in Table 1.

Table 1 shows that the coefficients for the single scales of the two parallel forms are quite high, ranging from .72 to .88 with a median of .83. Due to the higher number of items, the coefficients are higher for the combined form; the median is .90. Forms A and B appear to be equivalent; the coefficients range from .67 to .79. Thus, all in all, the coefficients do not fall much below the coefficients obtained for the German original (see Ruch 1992).

Cross-national stability of perceived humor quality and controversiality

Means and standard deviations for the 60 individual jokes and cartoons were computed separately for the two samples and subsequently inter-

Table 1. *Descriptive statistics of the experimental Italian version of the 3 WD*

3 WD Test	INC-RES _f	NON _f	SEX _f	INC-RES _a	NON _a	SEX _a
Form A						
M	23.74	12.68	23.10	3.37	4.85	5.33
SD	12.10	9.25	13.45	5.55	8.38	7.36
α	.84	.78	.88	.72	.86	.78
Form B						
M	25.84	16.88	21.27	5.12	4.79	7.54
SD	12.71	10.61	12.53	7.45	7.51	9.31
α	.86	.81	.86	.80	.81	.84
Form A + B						
M	49.57	29.55	44.37	8.49	9.64	12.87
SD	23.27	18.51	24.59	11.89	14.64	15.57
α	.91	.88	.92	.86	.90	.89
Equivalence of forms A and B	.76	.74	.79	.67	.70	.74

Key α = Cronbach's alpha

Forms A and B are based on 10 items each; the combined test (Form A + B) is based on 20 items.

correlated for the total pool as well as for the three subgroups of humor separately. While the means serve as an index for the perceived humor quality, the standard deviations represent the degree of controversiality. Thus, a joke or cartoon is *controversial* if it is perceived as very funny by some persons and not at all funny by others. It is not controversial if subjects tend to agree on its funniness, independent of *how* funny it is.

Stability of perceived humor quality. Generally, the Italian and German sample agreed on the relative quality of the jokes both with respect to mean funniness ($r = .37$; $P = .004$) and mean aversiveness ($r = .55$; $P < .001$). This relationship was high for sexual humor (SEX_f: $r = .74$; $P < .001$; SEX_a: $r = .47$; $P = .036$) and nonsense humor (NON_f: $r = .62$; $P = .003$; NON_a: $r = .56$; $P = .001$) but not significant for incongruity-resolution humor (INC-RES_f: $r = .15$; INC-RES_a: $r = .43$, $P = .061$).

Stability of controversiality. With respect to *funniness*, the cross-national stability was significant for sexual jokes ($r = .78$; $P < .001$), but not for the incongruity-resolution ($r = -.04$; n.s.) and nonsense ($r = .16$; n.s.) humor categories, and for the whole pool of humor items ($r = .09$; n.s.).

Thus, sexual jokes and cartoons with large variances in Germany also had large variances in Italy, and those jokes and cartoons to which the German sample responded more homogeneously were also more homogeneous in the Italian sample. Regarding *aversiveness*, the coefficients were significant for sexual humor ($r = .46$; $P = .042$), nonsense humor ($r = .58$; $P = .006$) and the whole pool of humor items ($r = .48$; $P < .001$), but not for the incongruity-resolution ($r = .20$; n.s.) humor category.

Comparison of the humor profile of the Italian and German samples

While the German and Italian samples were matched with respect to several sociodemographic variables and they are heterogeneous with respect to sex and age, none of them can be regarded as representative of the respective nation. Nevertheless, a comparison of the mean profiles was undertaken for *exploratory* purposes. 2×3 ANOVAs with the two samples (German versus Italian) as an independent variable and type of humor (INC-RES, NON, SEX) as a repeated measurement factor were performed for funniness and aversiveness (of the combined Form A + B).

Funniness of humor. Regarding funniness of humor, there was no significant overall difference between the German and the Italian sample ($F [1,294] = .09$, n.s.). The three types of humor (INC-RES, NON, SEX) were rated differently ($F [2,294] = 41.06$, $P < .001$); INC-RES humor was judged funnier than nonsense and sexual humor. However, most importantly, there was an interaction between nation and type of humor, $F (2,294) = 59.28$, $P < .001$. The humor profile of the two samples is presented in Figure 1.

Figure 1 shows that there was no difference between the German and Italian sample in INC-RES_f ($t[294] = 1.35$, n.s.). However, the German sample rated nonsense humor significantly funnier than the Italian sample ($t[294] = -6.64$, $P < .001$). While the Italian subjects showed the lowest enjoyment for this kind of humor, the German subjects rated NON_f as funny as they rated INC-RES_f. Finally, the Italian subjects judged sexual humor significantly funnier than the German sample ($t[294] = 3.73$, $P < .001$).

Aversiveness of humor. There was a significant main effect for the types of humor ($F [2,294] = 120.52$, $P = .0001$); sexual humor was found more

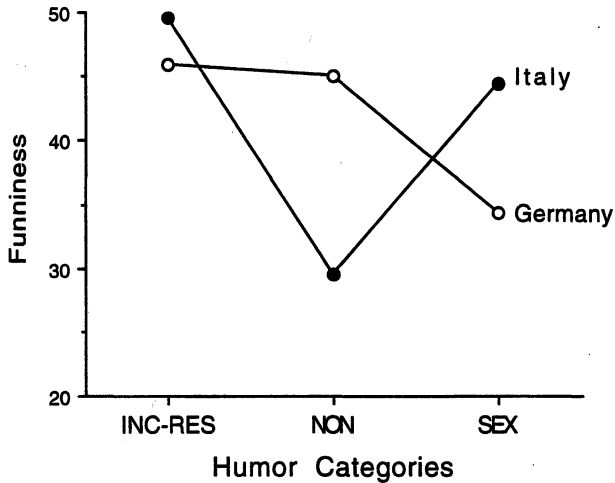


Figure 1. Funniness of the three humor types in the Italian and German samples

aversive than the INC-RES and NON humor categories. There was also a significant main effect of nationality ($F [1,294] = 50.35, P < .001$) which was moderated by the type of humor ($F [2,294] = 61.01, P < .001$). This interaction is presented in Figure 2.

Figure 2 shows that the Italian sample rated all three types of humor equally low in aversiveness. The German sample judged sexual humor

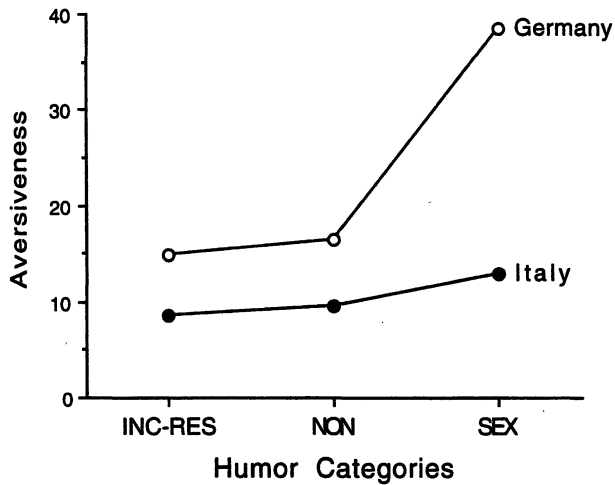


Figure 2. Aversiveness of the three humor types in the Italian and German samples

much more aversive than the other two (structure-dominated) humor categories. *Post hoc* comparisons revealed significant differences between the two samples with respect to all humor categories. While there are moderate differences for INC-RES humor ($t[294] = -3.64$, $P < .001$) and NON humor ($t[294] = -3.70$, $P < .001$), there was an enormous difference between the Italian and the German sample in aversiveness of sexual humor ($t[294] = -9.31$, $P < .001$). While the generally lowered mean scores in aversiveness of the Italians could be attributed to a more intense negative tone of the Italian translation of aversiveness (*disturbo* = disturbed, annoyed), the interaction was not based on an artifact. German subjects showed a generally lowered appreciation (funniness low, aversiveness high) of sexual humor as compared to the Italians.

Since the Italian sample was significantly older than the German sample ($t[294] = 5.24$, $P < .001$), age of subjects was added as a separate factor (cutpoint 30 years) to the analysis. The control of age reduced the effects for funniness of nonsense and sexual humor slightly (and added some interactions). However, the differences between the samples basically remained.

Funniness and aversiveness of individual items. Analysis of the single jokes and cartoons showed that the general effects for the NON_f, SEX_f, and SEX_a categories can be found for 10, 6, and 19 (of the 20) individual items, respectively ($P < .05$). Most important, for nonsense humor differences occurred even more frequently for the non-captioned cartoons (i.e., for items which did not need any translation) than for captioned cartoons. This result and the fact that the Italian sample judged sexual humor even funnier suggest that it is unlikely that the differences between the German and the Italian samples are merely artifacts based on the quality of the translation.

Discussion

The most important finding of the present study is that the humor taxonomy developed in the German speaking countries can be applied to Italy as well. The same factors emerged from the 3 WD-material in the Italian sample as in prior studies involving Austria, Germany, and France. The cosines between the factor axes of the corresponding factors in the two nations suggest that the humor categories incongruity-

resolution, nonsense, and sexual can be regarded as at least fairly similar in the two countries. More importantly, the inspection of the factor pattern (even before the target rotation) clearly yielded the three humor factors; only a few items had an unexpected factor pattern. Therefore, if the factor pattern of the individual jokes is taken as the criterion, the results are comparable to the results of the French sample (Ruch et al. 1991). Thus, while there was a debate about the validity of the Kaiser method in cross-cultural research of personality (Bijnen and Poortinga 1988; Bijnen, van der Net, and Poortinga 1986; Eysenck 1986), the stability of the taxonomy was already demonstrated by the clear factor pattern before target rotation. These results allow for the application of the 3 WD in an Italian context; results found with Italian subjects are valid for Germans and vice versa.

While Forabosco's (1987, 1992) extensive rational analysis already confirmed the existence of the incongruity-resolution humor category in Italian jokes and cartoons, nonsense as a structural humor category has received less theoretical and empirical attention. The present findings, however, do clearly show that nonsense humor also forms a homogeneous dimension in Italy; that is, a second structure-dominated factor emerged apart from incongruity-resolution and the corresponding scales in both forms appear to be reliable. Thus, the Italian subjects were also sensitive to the distinction between punch lines with completely resolvable incongruities and punch lines which either provide no resolution at all, or provide only a partial resolution, or actually create new absurdities or incongruities. Moreover, it is the same type of personality which appreciates the structural bases of humor (Forabosco and Ruch 1994). Also in the Italian sample, funniness of incongruity-resolution humor is predicted by conservatism, and sensation seeking goes along with funniness on nonsense.

There is nothing surprising about the confirmation of a sexual humor category, since this category would probably be found in any culture (for an analysis of Italian humor, and in particular of sexual humor, see Consigli 1986). However, the finding that a *structural basis* for sexual jokes and cartoons exists and that it can be replicated across the two cultures is significant. Moreover, in the Italian sample appreciation of *sexual content* in humor is also predicted by the personality variables of toughmindedness and disinhibition (Forabosco and Ruch 1994).

While it can be claimed that the intrinsic structure in the 3 WD-humor pool is stable across the European countries studied so far, these results

do not imply that there are no additional humor categories in Italy or in the other countries. Joint factor analyses of the 3 WD item pool and humor material selected to represent potential new humor categories should be carried out to answer this question. So-called aggressive humor would be such a candidate, since aggressive/hostile humor was often postulated to be a relevant humor category. However, other research groups could also not verify such a category, although enough potential representatives were carefully included in the item pool factor analyzed (Herzog and Larwin 1988; Kosuch and Köhler 1989).

Furthermore, the German and Italian sample perceived the *differences in quality* of the jokes and cartoons in a similar way; they largely agree with respect to what is funny and what is less so. This was not true for incongruity-resolution humor, however; the jokes and cartoons of this category were very homogeneous with respect to mean funniness and mean aversiveness. Also, the degree of *controversiality* of sexual humor was highly stable across cultures; jokes and cartoons yielding controversial evaluation in Germany also produced heterogeneous responses in Italy. There was no such stability in incongruity-resolution humor.

The results of the present study provide the basis for a *genuine* study on national differences in humor appreciation. Such a study, however, should carefully sample a broader range of age levels, professions, and geographical locations in the two countries. The two samples used in the present study are hardly representative for Italian and German adults; hence the differences found (albeit being of substantial size and not based on translation artifacts) should be merely regarded as one basis for deriving hypotheses for future studies.

In order to be able to predict national differences in humor appreciation, the nature of the humor categories of relevance here has to be considered. What is the background of finding the structure-dominated humor category of nonsense funny (as the German sample did) and of appreciating the content-dominated sexual humor category (as the Italian sample did)? For German samples (as well as partly for the present Italian sample) it was found that appreciation of the *sexual content* seems to reflect the *degree* and *valence* of salience of this theme; i.e., strength of positive salience contributes to funniness and strength of negative salience contributes to aversiveness of sexual content in humor (Ruch 1992). This is reflected by correlations of appreciation of sexual content with scales of sexual interest, sexual libido, hedonism, disinhibition, and sexual satisfaction (aversiveness only). Similarly, there is evidence that appreciation of the *nonsense structure* in humor reflects a generalized

need for uncertain, unpredictable, and ambiguous stimuli. While low aversiveness seems to reflect tolerance for the high stimulus potential of nonsense humor, high funniness of nonsense humor reflects the active pursuit of high levels of stimulation (for example, unpredictability, unresolved incongruity, complexity, perceived surprisingness, and perplexingness). This hypothesis is supported by correlations with the trait of sensation seeking (Zuckerman 1994), especially the facet of experience seeking (which is closely related to the novelty and complexity dimension of stimuli).

While it is questionable whether these relationships found *within* countries can be extrapolated to form the basis for hypothesizing differences *between* countries, it might be worthwhile to include such scales in a replication study examining the differences in appreciation of sexual humor between Germany and Italy. Thus, it has to be examined whether sexual issues are differently salient for German and Italian subjects (as suggested by the results found for enjoyment of sexual humor in the present study). Also, a future cross-cultural comparison of appreciation of nonsense (which should also include Italian nonsense humor translated into German) might involve a comparison of the samples' mean levels of experience seeking as well. If the German sample again finds nonsense humor funnier it would be of interest to see whether they also score higher on experience seeking or not.

It is superfluous to say that the present approach to the cross-cultural study of humor appreciation is quite reductionist and should be supplemented by studies considering that humor is more intrinsically linked to cultural context. It should be kept in mind, however, that the aim of the present study was to investigate whether it is possible to translate jokes and cartoons and adapt them to a specific culture without changing their intrinsic structure and the nomological network in which humor appreciation is embedded. Such studies provide the basis for arriving at a taxonomy of humor which can serve as a frame of reference for integrating research findings stemming from different cultures and thus, finally, the accumulation of knowledge in this field.

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Notes

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1. A more elaborate version of the cross-cultural research project on humor taxonomy is obtainable from the authors. Participation in this project is encouraged.

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